HELLENIC MEDITERRANEAN UNIVERSITY

School of Engineering

Department of Electronic Engineering

COURSE OUTLINES

7 courses

AI TOOLS FOR LEARNING AND INNOVATION

COURSE OUTLINE

1. GENERAL			
SCHOOL	School of Engineering		
ACADEMIC UNIT	Department of Electronic Engineering		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	8000.1.205.0	**SEMESTER**	2nd
COURSE TITLE	AI tools for learning and innovation		

INDEPENDENT TEACHING ACTIVITIES if credits are awarded for separate components of the course	**WEEKLY TEACHING HOURS**	**CREDITS**
	2	4
Total	**2**	**4**

COURSE TYPE general background, special background, specialised general knowledge, skills development	Theoretical & Practical
PREREQUISITE COURSES	There are no prerequisites for this course. It also applies to any semester.
LANGUAGE OF INSTRUCTION and EXAMINATIONS	English
OFFERED TO ERASMUS STUDENTS	Yes (in English)
COURSE WEBSITE (URL)	

2. LEARNING OUTCOMES

Learning outcomes

• Explain the fundamental concepts, capabilities, and limitations of generative AI and large language models.
• Identify and compare AI tools used for learning, research, communication, content creation, employability, and innovation.
• Apply appropriate AI tools to academic and professional tasks, including research, writing, presentations, brainstorming, and project development.
• Evaluate the accuracy, reliability, bias, and suitability of AI-generated outputs critically.
• Apply ethical principles related to academic integrity, transparency, privacy, copyright, and responsible AI use.
• Design and develop digital content using AI-supported tools, including presentations, websites, images, videos, and customized chatbots.
• Formulate effective prompts and refine interactions with AI systems to produce relevant and context-appropriate results.
• Collaborate effectively in multicultural and international virtual teams using digital communication and project-management platforms.
• Plan and organize an international online or hybrid academic event using appropriate project-management methods and digital tools.

General Competences

• Understanding the principles, capabilities and limitations of generative AI and large language models. • Selecting and comparing AI tools according to specific academic, professional and creative needs. • Critically evaluating AI-generated content for accuracy, reliability, bias, relevance and quality. • Applying ethical, transparent and responsible practices when using AI, particularly regarding academic integrity, privacy and copyright. • Using AI tools effectively for research, writing, learning, communication, employability and problem-solving. • Designing effective prompts and refining interactions with AI systems to achieve appropriate outcomes. • Creating AI-supported digital outputs, including presentations, websites, images, videos and customized chatbots.

3. SYLLABUS
• AI Fundamentals. • How to think about using AI - the concept of fusion skills. • Learn how to prompt. • AI responsible use. • AI tools for presentation purposes. • AI tools for research communication. • AI tools for career development purposes. • AI as an evaluator of your work. • AI tools for vibe coding. • How to create your chatbot.

4. TEACHING and LEARNING METHODS - EVALUATION	
DELIVERY Face-to-face, Distance learning, etc.	- Synchronous lecture sessions and attention of seminars in a hybrid format.
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY Use of ICT in teaching, laboratory education, communication with students	• Use of the Learning Management System (e-class) to access, download the lecture notes, and upload assignments. • Use of the Zoom platform as a teleconference tool. • Use of Mentimeter as a polling platform. • Use Kahoot as an assessment platform to evaluate students' understanding.
TEACHING METHODS The manner and methods of teaching are described in detail.	
STUDENT PERFORMANCE EVALUATION Description of the evaluation procedure	The enrolled students should register for all of the following assessment stages: • Active Participation in the sessions - 50% • Homwework/Assignments - 20% • Final Exam - 30%

Activity	Semester workload
Lectures	25
Attending Seminars / Colloquial Talks	10
Homework / Assignments (Collaborative Work)	75
Course total	**110**

5. ATTACHED BIBLIOGRAPHY
• Distributed Lecture Notes

INTRODUCTION TO PLASMA ENGINEERING

COURSE OUTLINE

1. GENERAL			
SCHOOL	School of Engineering		
ACADEMIC UNIT	Department of Electronic Engineering		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	8000.1.008.0	**SEMESTER**	255th
COURSE TITLE	Introduction to Plasma Engineering		

INDEPENDENT TEACHING ACTIVITIES if credits are awarded for separate components of the course	**WEEKLY TEACHING HOURS**	**CREDITS**
	3	4
Total	**3**	**4**

COURSE TYPE general background, special background, specialised general knowledge, skills development	Specialization course
PREREQUISITE COURSES	Basic knowledge of electromagnetism and optics (Lorentz force, e/m waves formalism, Maxwell equations, dielectric\magnetic constant, refractive index, refraction, etc.)
LANGUAGE OF INSTRUCTION and EXAMINATIONS	English
OFFERED TO ERASMUS STUDENTS	Yes (in English)
COURSE WEBSITE (URL)	https://eclass.hmu.gr/courses/EE344/

2. LEARNING OUTCOMES

Learning outcomes

The course introduces the students to the fundamental of plasma and the applications of plasma technology. After completing the course, the student will be able to:

- understand the plasma phase of the matter, the unique properties it has and the different types of plasmas.
- calculate/evaluate basic plasma parameters
- mention the different formulations of plasma description and where could be applied
- recognize the different type of waves that could develop/propagate in plasmas and their properties
- have knowledge of the different technologies of plasma sources and their properties
- describe various plasma applications and choose the proper plasma sources
- use proper diagnostics for plasma sources characterization
- mention and describe the various type of dense plasma generators and their applications.

General Competences

Decision-making, Independent work, Exercising criticism and self-criticismm Generating new research ideas, Promoting free, creative and inductive thinking

3. SYLLABUS

• Introduction to plasma: definitions, properties, Debye shielding, temperatures- densities, types of plasmas, plasma frequency.
• Plasma descriptions: particle motion, kinetic description, two-fluid description, magneto-hydrodynamic (MHD) description, ideal-MHD, plasma conductivity.
• Waves in plasma: waves in non-magnetized plasma, phase velocity, refractive index, critical density. Waves in magnetized plasma, cutoff-resonance, MHD waves.
• Plasma sources: electric discharge tubes, plasma torch, corona discharge, Dielectric Barrier discharge, RF discharge, Microwave discharge. Electron beam plasmas. Laser plasmas.
• Plasma applications: Material processing, nanolithography, plasma antennas, plasma monitor, plasma thrusters, spectroscopy, sterilization.
• Plasma diagnostics: diagnostics of magnetic field, current, particle flow, refractive index, spectroscopy. Diagnostics with X-rays, ion beam.
• Dense plasma & applications: pulsed power plasma devices. Z-pinch, plasma instabilities, X-pinch & other pinch configurations, Dense Plasma Focus, Tokamak, Stellarator. high photon energy sources, particle acceleration, fusion energy.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY Face-to-face, Distance learning, etc.	Face-to-face theoretical teaching. Problem solving.
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY Use of ICT in teaching, laboratory education, communication with students	Use of slide presentation software. Electronic communication with students
TEACHING METHODS The manner and methods of teaching are described in detail.	see table below
STUDENT PERFORMANCE EVALUATION Description of the evaluation procedure	Written exams 40%, exercises-questionnaires 30%, short project presentation 30%.

Activity	Semester workload
Lectures	36
Problem Solving	10
Personal study	52
Short project	20
Examination	2
Course total	**120**

5. ATTACHED BIBLIOGRAPHY

1. Introduction to Plasma Technology: Science, Engineering and Applications, J.E. Harry, 2010, Wiley?VCH, ISBN Print:9783527327638 Online:9783527632169
2. Plasma Physics and Engineering, A. Fridman, L.A. Kennedy, 2011, CRC Press, ISBN 9781439812280
3. Plasma Engineering: Applications from Aerospace to Bio and Nanotechnology, 1st edition (or 2nd edition), M. Keidar , I. Beilis, 2013 (2018), Academic Press, ISBN: 978-0123859778 (978-0128137024)
4. Principles of Plasma Physics for Engineers and Scientists, U.S. Inan, M. Golkowski, 2011, Cambridge University Press, ISBN 13:9780521193726

ORGANIC ELECTRONICS DEVICES

COURSE OUTLINE

1. GENERAL			
SCHOOL	School of Engineering		
ACADEMIC UNIT	Department of Electronic Engineering		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	8000.1.022.0	**SEMESTER**	255th
COURSE TITLE	Organic Electronics Devices		

INDEPENDENT TEACHING ACTIVITIES if credits are awarded for separate components of the course	**WEEKLY TEACHING HOURS**	**CREDITS**
	2	4
Total	**2**	**4**

COURSE TYPE general background, special background, specialised general knowledge, skills development	Erasmus
PREREQUISITE COURSES	None
LANGUAGE OF INSTRUCTION and EXAMINATIONS	English
OFFERED TO ERASMUS STUDENTS	Yes (in English)
COURSE WEBSITE (URL)	

2. LEARNING OUTCOMES

Learning outcomes

Upon completion of the subject, students will be able to:
- Understand the physics behind organic semiconductors
- Understand electronc transport mechanism in the organic semiconductors.
- Identify the molecules that can be used for different functions in organic electronics
- Chose a proper method (or different methods) for fabricating particular component
- Understand the importance of interfaces and morphology for organic electronics
- Gain an introductory knowledge on organic solar cells and organic LEDs

General Competences

Understanding Organic Semiconductor Physics, Operating Principles of Key Devices, Structure-Property Relationships, Fabrication & Processing Techniques, Device Characterization, Multidisciplinary Communication, Technical English Fluency.

3. SYLLABUS

- Introduction to Organic Electronic
- Electronic transport in crystalline organic materials and conductive polymers
- Conducting Polymers, small molecules organic semiconductors,
- Polymer organic semiconductor,
- Electrical and optical properties of organic semiconductors.
- Basic Organic LED structure, thin film layers: Hole injection, hole transport, emissive, electron transport and electron injection layers used in organic LEDs.
- Fabrication and characterization techniques.
- Recent advances in organic solar cells and LEDs

4. TEACHING and LEARNING METHODS - EVALUATION	
DELIVERY Face-to-face, Distance learning, etc.	Project
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY Use of ICT in teaching, laboratory education, communication with students	
TEACHING METHODS The manner and methods of teaching are described in detail.	<table><tr><th>Activity</th><th>Semester workload</th></tr><tr><td>**Course total**</td><td></td></tr></table>
STUDENT PERFORMANCE EVALUATION Description of the evaluation procedure	Oral Presentation (50%) Final Exam (50%)

5. ATTACHED BIBLIOGRAPHY
Lecture notes

ANALOG AND DIGITAL AUTOMATIC CONTROL

COURSE OUTLINE

1. GENERAL			
SCHOOL	School of Engineering		
ACADEMIC UNIT	Department of Electronic Engineering		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	0806.4.005.0	**SEMESTER**	2nd
COURSE TITLE	Analog and Digital Automatic Control		

INDEPENDENT TEACHING ACTIVITIES if credits are awarded for separate components of the course	**WEEKLY TEACHING HOURS**	**CREDITS**
	5	5
Total	**5**	**5**

COURSE TYPE general background, special background, specialised general knowledge, skills development	
PREREQUISITE COURSES	Mathematics, Physics I, Signals and Systems
LANGUAGE OF INSTRUCTION and EXAMINATIONS	Greek or English
OFFERED TO ERASMUS STUDENTS	Yes (in English)
COURSE WEBSITE (URL)	

2. LEARNING OUTCOMES
Learning outcomes
The purpose of the course is for students to acquire the theoretical and practical background in Automatic Control Systems (ACS) in both continuous and discrete time and their applications. The course aims to introduce students to the fundamental concepts of Automatic Control Systems. The course covers the following thematic areas: (a) Description of continuous-time systems in the form of transfer functions, (b) Analysis of transfer functions: Calculation of characteristic system metrics in the time and frequency domains, (c) Design of closed-loop systems PID controllers, (d) Design of closed-loop control systems using the Ziegler-Nichols empirical method, (e) Analytical design of closed-loop control systems using the pole placement method: Design in continuous and discrete time, (f) Calculation of steady-state errors and system type for closed-loop systems. The course is accompanied by laboratory-type applications via the MATLAB and Simulink simulation environments. Learning Outcomes: Upon completion of the course, students should be able to utilize the acquired knowledge to: (a) Analyze and study the behavior of a linear dynamic system, (b) Design controllers and study their impact and performance on the response behavior of the closed-loop system.
General Competences
Decision-making Teamwork (or *Group work*) Oral presentation of group work Criticism and self-criticism Promotion of free, creative and inductive thinking

3. SYLLABUS
Representation of dynamic systems with transfer functions System analysis in the time and frequency domains Stability analysis Block diagram algebra Closed-loop control systems PID controllers Control System Design using the Ziegler-Nichols method Simulation of closed-loop control systems Control SystemDesign using the pole placement method Calculation of steady-state errors Closed-loop control system type

4. TEACHING and LEARNING METHODS - EVALUATION		
DELIVERY Face-to-face, Distance learning, etc.	Oral presentations	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY Use of ICT in teaching, laboratory education, communication with students	MS Power point, e-class, Matlab, Simulink, LaTeX,	
TEACHING METHODS The manner and methods of teaching are described in detail.	**Activity**	**Semester workload**
	Groups of theoretical exercises, Groups of Laboratory Exercises, Mid-Term, test, Final Test	150
	Course total	**150**
STUDENT PERFORMANCE EVALUATION Description of the evaluation procedure	Mid-term test, Final test, Groups of theoretical and laboratory exercises.	

5. ATTACHED BIBLIOGRAPHY
Benjamin Cuo and Farid Golnaraghi, Automatic Control Systems, John Wiley, 8th Edition, 2003.

POWER ELECTRONICS

COURSE OUTLINE

1. GENERAL			
SCHOOL	School of Engineering		
ACADEMIC UNIT	Department of Electronic Engineering		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	0806.8.009.0	**SEMESTER**	255th
COURSE TITLE	Power Electronics		

INDEPENDENT TEACHING ACTIVITIES if credits are awarded for separate components of the course	**WEEKLY TEACHING HOURS**	**CREDITS**
	2	4
Total	**2**	**4**

COURSE TYPE general background, special background, specialised general knowledge, skills development	Scientific Area, Skills Development
PREREQUISITE COURSES	None
LANGUAGE OF INSTRUCTION and EXAMINATIONS	English
OFFERED TO ERASMUS STUDENTS	Yes (in English)
COURSE WEBSITE (URL)	https://eclass.hmu.gr/courses/EE111/

2. LEARNING OUTCOMES

Learning outcomes

The power electronics course focuses the attention of students, who already know most of the possibilities of electronics, on the elimination of losses, introducing switching methods suitable to replace linear operation. The electronic components that they already know are now examined, along with new ones, from another perspective, that of operating as switches. Attention is focused on any disadvantages of switching methods and how to deal with them. Upon successful completion of the course, the student will be able to:

- Know how to design to minimize losses.
- Have knowledge of the effect of the characteristics of the components on the switching function.
- Know how to implement a power electronics device in order for it to operate effectively.

General Competences

Searching, analyzing and synthesizing data and information, using the necessary technologies Decision-making Autonomous work, Exercising criticism and self-criticism, Promoting free, creative and inductive thinking

3. SYLLABUS

Definition of the concept of "Power Electronics", Power semiconductors (Diode, Thyristor, GTO, MCT, TRIAC, Power BJT, Power MOSFETs, SJ MOSFET, IGBT, HEMT, TRIAC), Circuits with switches and diodes (with RC, RL, RLC load), semiconductor protection, oscillation damping - snubbers, MOVs, di/dt limiting coils, fuses, current sensors - protection through driving. Rectifiers, polyphase rectifiers, thyristor controlled rectifiers. RL and LC low-pass filters, Fourier analysis, use of harmonic spectrum in power electronics, ripple factor (K), total harmonic distortion factor (THD), harmonic factors (HF), power factor (PF). DC/DC conversion, Buck converter, DC and AC coil operation, Boost converter, DC and AC coil operation, Polarity reversal converter. Definition of Duty Cycle and control using a reference voltage and using a triangular or sawtooth pulse (PWM). Switching power supplies, power factor correction (PFC), the pulse transformer, forward converter, half-bridge, bridge, Push-Pull, coupled coils, Flyback converter. Inverters: Half-bridge, Bridge, PWM technique, MPWM technique, PDM technique, Modulation Factor (Mf), SPWM technique, Normalized carrier frequency (Fnc), HF-Link, three-phase inverters, Inverters and motors., Class-D amplifiers, Class-E. Integrated Circuits and Power Electronics, switching regulators, DC/DC converters, PFC controllers, power semiconductor driving, PWM units, Microcontrollers and DSP for power electronics. Feedback control and correction techniques. Cycloconverters, and other applications of Power electronics.

4. TEACHING and LEARNING METHODS - EVALUATION	
DELIVERY Face-to-face, Distance learning, etc.	Face to face theoretical teaching.
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY Use of ICT in teaching, laboratory education, communication with students	Use of PowerPoint presentations. Electronic communication with students
TEACHING METHODS The manner and methods of teaching are described in detail.	see table below
STUDENT PERFORMANCE EVALUATION Description of the evaluation procedure	I. Written final exam - Problem solving/calculations - Comparative evaluation of theory elements The evaluation criteria are accessible to students from the course website and are announced in the first lesson.

Activity	Semester workload
Lectures	26
Personal study	92
Exam	2
Course total	**120**

5. ATTACHED BIBLIOGRAPHY

Suggested Bibliography:

• "Power Electronics", Lander C.
• "Power Electronics", Brandley B.
• "Power Electronics", Williams B.
• "Power Electronics", Rashid M.

SOFT AND RESEARCH SKILLS DEVELOPMENT

COURSE OUTLINE

1. GENERAL			
SCHOOL	School of Engineering		
ACADEMIC UNIT	Department of Electronic Engineering		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	MH10A4	**SEMESTER**	255th
COURSE TITLE	Soft and Research Skills Development		

INDEPENDENT TEACHING ACTIVITIES if credits are awarded for separate components of the course	**WEEKLY TEACHING HOURS**	**CREDITS**
		5
	2	
Total	**2**	**5**

COURSE TYPE general background, special background, specialised general knowledge, skills development	
PREREQUISITE COURSES	There are no prerequisites for this course
LANGUAGE OF INSTRUCTION and EXAMINATIONS	English
OFFERED TO ERASMUS STUDENTS	Yes (in English)
COURSE WEBSITE (URL)	

2. LEARNING OUTCOMES

Learning outcomes

- Communicate scientific ideas clearly in written, oral, and digital formats.
- Collaborate effectively in multidisciplinary and intercultural teams.
- Apply critical thinking, problem-solving, creativity, and decision-making skills.
- Demonstrate effective time management, adaptability, leadership, and conflict-resolution skills.
- Formulate research questions, objectives, and testable hypotheses.
- Conduct systematic literature searches and critically evaluate academic sources.
- Prepare and present a structured research proposal, report, poster, or scientific presentation.
- Apply principles of research ethics, academic integrity, referencing, and responsible use of artificial intelligence.
- Disseminate your scientific work using social media.

General Competences

- Scientific communication across written, oral, and digital formats.
- Effective collaboration in multidisciplinary and intercultural teams.
- Critical thinking, problem-solving, creativity, and evidence-based decision-making.
- Time management, adaptability, leadership, negotiation, and conflict resolution.
- Formulating research questions, objectives, and hypotheses.
- Conducting literature searches and critically evaluating scientific sources.
- Applying research ethics, academic integrity, referencing standards, and responsible use of artificial intelligence.
- Preparing and presenting research proposals, reports, posters, and scientific presentations.
- Reflecting on personal, academic, and professional development.

3. SYLLABUS
The content of the course includes the following topics: • How to make oral presentations in public. • How to develop your collaboration and networking skills. • How to develop your cultural intelligence skills. • How to develop your critical thinking and problem-solving skills. • How to develop your leadership skills. • How to manage your time effectively. • How to resolve conflict situations. • How to read a scientific paper. • How to write a scientific paper. • How to prepare a poster presentation. • Research ethics and integrity.

4. TEACHING and LEARNING METHODS - EVALUATION	
DELIVERY Face-to-face, Distance learning, etc.	- Synchronous lecture sessions and attention of seminars in a hybrid format.
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY Use of ICT in teaching, laboratory education, communication with students	• Use of a Learning Management System (e-class) for finding lecture notes and uploading your assignments. • Use of the Zoom platform for the online sessions. • Use of Mentimeter for polling surveys. • Use of Kahoot to evaluate understanding of each session.
TEACHING METHODS The manner and methods of teaching are described in detail.	(see table below)
STUDENT PERFORMANCE EVALUATION Description of the evaluation procedure	The enrolled students should participate in all of the following assessment steps. • Active Participation: 50% • Weekly Assignments: 30% • Final Exam: 20%

Activity	Semester workload
Lectures	25
Attending Seminars / Colloquial Talks	10
Homework / Assignments (Collaborative Work)	75
Exams	2
Course total	**112**

5. ATTACHED BIBLIOGRAPHY
• Lecture notes of the lecturer. • Presentation slides of the invited speakers.

AN INTRODUCTION TO LASER PHYSICS AND APPLICATIONS

COURSE OUTLINE

1. GENERAL			
SCHOOL	School of Engineering		
ACADEMIC UNIT	Department of Electronic Engineering		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	MEN1.2	**SEMESTER**	2nd
COURSE TITLE	An Introduction to Laser Physics and Applications		

INDEPENDENT TEACHING ACTIVITIES if credits are awarded for separate components of the course	**WEEKLY TEACHING HOURS**	**CREDITS**
	2	4
Total	**2**	**4**

COURSE TYPE general background, special background, specialised general knowledge, skills development	Theoretical
PREREQUISITE COURSES	There are no prerequisites for this course
LANGUAGE OF INSTRUCTION and EXAMINATIONS	English
OFFERED TO ERASMUS STUDENTS	Yes (in English)
COURSE WEBSITE (URL)	

2. LEARNING OUTCOMES

Learning outcomes

- Explain the fundamental principles of light–matter interaction, including absorption, spontaneous emission, and stimulated emission.
- Describe the conditions required for laser operation, including population inversion, optical amplification, and feedback.
- Explain the basic characteristics of laser radiation, including coherence, monochromaticity, directionality, intensity, and polarization.
- Analyze the operation of optical resonators and describe the formation of longitudinal and transverse modes.
- Understand continuous-wave and pulsed laser operation.
- Distinguish between different types of lasers, including solid-state, gas, semiconductor, fiber, and dye lasers.
- Communicate the principles and applications of laser technology through technical reports, problem-solving activities, and oral presentations.

General Competences

• Applying the fundamental principles of light–matter interaction, including absorption, spontaneous emission, and stimulated emission.
• Explaining the physical conditions required for laser operation, including population inversion, optical gain, and feedback.
• Identifying the main components of a laser system and evaluating their functions.
• Distinguishing among solid-state, gas, semiconductor, fiber, and dye lasers.
• Analyzing the main properties of laser radiation, including coherence, monochromaticity, directionality, intensity, and polarization.
• Interpreting the operation of optical resonators and the formation of longitudinal and transverse modes.
• Calculating fundamental laser parameters, including wavelength, frequency, photon energy, optical power, intensity, beam divergence, and pulse energy.
• Differentiating between continuous-wave, pulsed, Q-switched, and mode-locked laser operation.

3. SYLLABUS

The course will contain the following topics:
• The three fundamental processes to generate light: absorption, spontaneous emission, and stimulated emission.
• The properties of laser light.
• The three building blocks of a laser device: Pump Source, Medium, and an Optical Amplifier.
• Types of Pumping Sources and related laser systems.
• What do we define as the threshold point? What is population inversion, and how many energy states do we need to achieve population inversion?
• Types of optical amplifiers. The stability/loss diagram.
• Longitudinal and Transverse laser modes.
• The saturation mechanism. The various spectral broadening mechanisms.
• How to generate laser pulses: the Q-Switching and Mode-Locking Techniques.
• Controlling the polarization of the laser light.
• Applications of laser light in medicine, environment, and military areas.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY Face-to-face, Distance learning, etc.	- Synchronous lecture sessions and attention of seminars in a hybrid format.
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY Use of ICT in teaching, laboratory education, communication with students	• Use of the Zoom platform • Use of a Learning Management System to download the lecture sessions, respond to your assignments, and upload your homework. • Use of the Mentimeter tool for polling activities during the lecture sessions. • Use of the Kahoot tool for understanding the outcomes of each session.
TEACHING METHODS The manner and methods of teaching are described in detail.	(see table below)
STUDENT PERFORMANCE EVALUATION Description of the evaluation procedure	• Active Participation: 50% • Homework: 30% • Final Exam: 20% The students should be engaged in all of the above assessment processes.

Activity	Semester workload
Lectures	25
Homework & Assignments	75
Final Exam	2
Course total	**102**

5. ATTACHED BIBLIOGRAPHY
• Lecturer's teaching notes. • LASERS by Siegman